



Using Graphs and Summary Statistics to Investigate Numerical Data

How to Get a Random Sample from CensusAtSchool

Go to the CensusAtSchool [Random Sampler](#) to download a sample.X

Reference year: (select year)

Sample size: At least 40 students

Select questions: All

Location: Select location

Year level: (select a range of year levels)

To protect privacy there is a rule built into the sampler that the requested sample size cannot exceed 10% entered.

Task:

Use a CensusAtSchool random sample to conduct your own investigation and analysis.

1. Pose a question: (This is what you want to find an answer to)

2. Identify your variables:

When you're looking at numerical data you can look into one or two variables.

- If you're looking at one variable only you will be looking at how the data is distributed. You will need to comment on Shape, Centre and Spread.
- If you're looking at two variables you can compare their distributions (see 2a) or look for a relationship after you identify the independent and dependent variables.

Independent (Explanatory): _____

Dependent (Response): _____

3. Results:

- Graphing:** Use the first thirty values from your random sample to graph your data.

Think about the most appropriate way to display your data. (There is a grid you can use overleaf)

- Summary Statistics for Numerical Data:** Calculate the following

Mean	Mode	Range	Q1	Median	Q3	IQR

CensusAtSchool Random Sampler <http://www.cas.abs.gov.au/cgi-local/cassampler.pl>

Access other similar lessons at <http://www.abs.gov.au/censusatschool>



Date:

--	--	--	--	--	--	--

4. Discussion:

- What sort of graph did you choose to display your data and why?
- Identify and describe any features or patterns in your graph.
- From your summary statistics, what would be the best statistic to use to describe your measure of centre? Why did you select this statistic as being the best to describe your measure of centre?
- From your summary statistics, what would be the best statistic to use to describe your spread? Why did you choose this statistic?

5. Conclusion: Write a summary paragraph describing your findings. Make sure you refer to the statistical analysis that supports your comments. If possible, give reasons for the results.



ABS Education Services

CaSQ 25B

Date: _____

Name: _____